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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/694,273

10/27/2003

Rajiv R. Singh

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EXAMINER

KHAN, AMINA S

ART UNIT

PAPER NUMBER

1751

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/694,273	SINGH ET AL.	
	Examiner	Art Unit	
	Amina Khan	1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 54, 55, 57-66, 68-89 and 91-99 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 54, 55, 57-66, 68-89 and 91-99 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/8/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to applicant's amendments filed on December 8, 2006.
2. Claims 54,55,57-66,68-89 and 91-99 are pending. Claims 1-53,56,67 and 90 are cancelled. Claims 91-99 are new. Claims 54,57-59,62,64,68-89 are amended.
3. All prior rejections are withdrawn.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 54,55,57-64,66,68-85,87-89,91-93,95 and 97-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smits et al. (US 4,945,119).

Smits et al. teach blowing agents comprising alkanes (column 4, lines 60-65) and about 5 to about 60% (column 4, lines 3-6) pentafluoropropylene or tetrafluoropropylene (column 5, lines 55-65) and up to 30 percent (column 6, lines 65-68) polyester polyols (column 7, lines 25-30), flame retardants, stabilizers (column 9, lines 1-5) and surfactants (column 8, lines 10-20).

Smits et al. is silent as to the global warming potentials, acute toxicity, flammability, ozone depletion potentials, liquid phase temperatures and stability properties of the compositions. Smits further is silent as to all the isomers of the propylenes and the specific alkanes propane, butane and pentane.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the compositions of Smits et al. would encompass the instantly claimed properties because Smits et al. teaches similar compositions prepared from similar compound in similar percentages. One of ordinary skill in the art would expect similar compositions to possess similar properties.

Regarding the isomers of the propylenes instantly claimed, the reference teaches the use of all pentafluoropropylene or tetrafluoropropylene compounds. Nothing unobvious is seen in substituting the known claimed isomer for the structurally similar isomers taught by Smits since structurally related compounds suggest one another and would be expected to share common properties absent a showing of unexpected results.

Regarding the generic teaching of alkanes in Smits et al., it would be obvious that the teaching incorporates the pentanes, butanes and propanes instantly claimed since they are common components in blowing agents.

Regarding the claimed percentage of "about 70%" for the compounds of formula (II), as the word "about" permits some tolerance, see *In re Ayers*, 69 USPQ 109, and *In re Erickson*, 145 USPQ 207), the "about 70%" of the instant claims is considered to read on "about 60%" of the prior art.

6. Claims 55,60-62,65,66,69,76-80,82-86 and 93-99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smits et al. (US 4,945,119), as applied to the claims above, and further in view of Nimitz et al. (US 5,674,451).

Smits et al. is relied upon as set forth above.

Smits et al. is silent as to the global warming potentials, acute toxicity, flammability, ozone depletion potentials, liquid phase temperatures and stability properties of the compositions. Smits further is silent as to all the isomers of the propylenes and the specific alkanes propane, butane and pentane.

Nimitz et al. teach refrigeration and blowing agents comprising hydrofluorocarbons, butanes and pentanes (table 4, hydrocarbons), ethylene oxide sterilants (abstract) and lubricants such as polyol esters and polyalkylene glycols (column 13, lines 35-55). Nimitz teaches these compositions have zero ODP, low GWP and toxicity (column 6, lines 60-62) and are nonflammable (column 7, lines 1-10; column 6, lines 65-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compositions of Smits by incorporating the polyalkylene glycols and butanes and pentanes as taught by Nimitz because Nimitz teaches the importance of these components in providing nonflammable compositions with zero ODP, low GWP and toxicity. It is prima facie obvious to combine the two references, each taught for the same purpose, to yield a third composition for that very

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purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the blowing agent art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results.

Regarding the teaching of propane, the close structural similarity of butane and pentane suggests the claimed propane and nothing unobvious is seen in substituting butane and pentane for propane.

Regarding the isomers of the propylenes instantly claimed, the reference teaches the use of all pentafluoropropylene or tetrafluoropropylene compounds. Nothing unobvious is seen in substituting the known claimed isomer for the structurally similar isomers taught by Smits since structurally related compounds suggest one another and would be expected to share common properties absent a showing of unexpected results.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amina Khan whose telephone number is (571) 272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

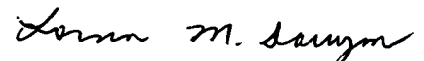
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Amina Khan, PhD
March 19, 2007


LORNA M. DOUYON
PRIMARY EXAMINER